

EXPANSION LINK

BASINGSTOKE and DISTRICT MODEL ENGINEERING SOCIETY



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Editor Austin Lewis



Mick Lowe, oil can and his 5" Jersey Lilly

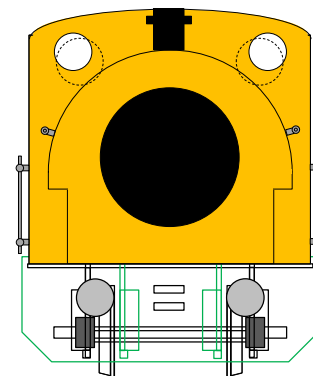
Editorial

I would like to take this opportunity on behalf of all members of the club, to express our gratitude to John Taviner for seven years of editing and producing the club Newsletter – thank you very much. I am a new boy to the club and have yet to get an engine under steam on the track but the enthusiasm is there even though I will have to hurry up with completing a loco before that final signal appears.

I have made a few layout changes to the newsletter which I hope you will like (please let me know if you don't). In this edition I have started with a photo and caption, apologies to Mick, to remind us of those summer days. If you have a photo with an amusing comment or article you may have prepared please send to me by post (address at back of newsletter) or email at arlewis01@gmail.com for inclusion in future editions. Many thanks.

Sweet Pea to Sir Galtbe : Part 1

by Graham Blissett



For a number of years now I have wanted to expand my electric fleet from one 0-4-0 Saddle Tank, named 'Lady Galtbe', to have a second freelance design Saddle Tank, specifically kitted out for double heading with 'Lady Galtbe'. As the opportunity suddenly came along to turn this long held *want* into a reality, I decided to put pen to paper or fingers to keyboard to write. I hope this will be a series of articles on the project, the problems I know I'm going to encounter and the things I have learnt from the experience.

I'm also going to increase the pressure on myself, by attempting to have a running loco by this summer (2013), which at the time of writing is around six months away. I know, I must be mad with such a timescale but unless I set a notional deadline, the project will only be put on the back burner and stay there for a number of years, as has happened with my Q1. If any reader wishes to see larger formats of my pictures and drawings let me know and I will try to oblige.

Hopefully this series may even inspire a Club member to try something different or even create their own freelance design. Possibly this or subsequent articles may even result in a Letters to the Editor, stating "That's not the way to do it". I'm happy to accept constructive criticism and tap into the vast knowledge of information buried away in the grey matter of our members which we *apprentice engineers* love to benefit from.

The experience of many Model Engineers is building locomotives from either partly or fully machined kits or from plans, where someone has allegedly done all the hard work getting the design and dimensions correct. Although designing an electric freelance engine is without question far simpler than a design for a live steam locomotive, it still has some of the challenges, albeit on a smaller scale. With my freelance design I am starting with a blank sheet of paper, on to which I need to transpose the dimensions for the Sweet Pea chassis. After that it's down to my own engineering skills of working out the design and finding the solutions.

In the Beginning

With my existing Saddle Tank locomotive the bulk of the overall cost is in the chassis and the four 150 watt electric motors. In a bid to drive down the cost and reduce build time, I hit upon the idea of looking around for a second hand chassis which I could convert for my needs.

Although I had a number of unsuccessful bids on Ebay, I was recently lucky with an auction for a Sweet Pea chassis, which from the auction information met my needs but required some TLC and imagination. I can already sense some of the Club diehards coming out in a cold sweat that I am going to cut up the chassis of a perfectly good steam locomotive. Well that's exactly what I'm going to do.



Sweet Pea chassis as purchased

Although Sweet Pea chassis can come in a number of axle arrangements, the chassis I purchased was set out for a 0-4-2 and consisted of the frames, numerous frame stretchers, buffer beams (no buffers) and horn blocks. With many evenings worth of measuring and using MS Power Point as a rudimentary CAD package, I eventually came up with a design for a 2-4-2 freelance Saddle Tank, driven by the two central axles with 4" wheels and kitted out to specifically match up to my existing 0-4-0 Saddle Tank. To simplify the build I would 'cheat' and purchase a Ride-on- Railways 0 Saddle Tank body, as used on my existing loco, along with pre-machined wheels.

However, before I reveal my design a few words on my thought process. With any locomotive the function of the springs on the many driving wheels appears to be two fold. Firstly to provide a means of pushing down on the axles to ensure the tread of the wheels is in contact with the rails at all times and secondly, to be strong enough to support the weight of the locomotive.

Around half the weight of my existing 0-4-0 Saddle Tank consists of 28kg or 61.6lbs of sealed lead acid batteries, which ideally should be positioned more or less directly over the two sprung driving axles. However, due to the weight of the controller, heat sink and other electronic gizmos, the batteries are positioned slightly forward of this ideal position. Consequently, this helps to define my 2nd requirement of where the batteries are positioned and hence determines roughly the position of the loco body.



Lady Galtbe

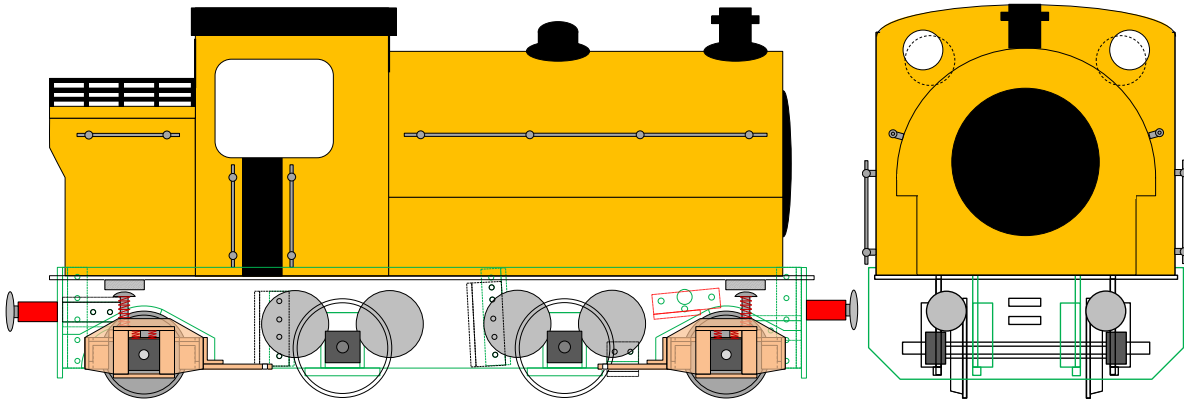
As the Sweet Pea chassis already contains numerous bolt holes, it seems sensible to use as many of these again to create my freelance design and to simplify the build process. Consequently, although the chassis is longer than I would ideally want, re using the frame holes constrains the chassis length. However, this extra length provided the potential to create something other than another 0-4-0 Saddle Tank.

For those of you who are not aware, I have a ground level portable track that I take to various school and summer fetes. This track can be configured as either a straight up and down or as a complete oval, which is based on a 15ft radius. This 15ft radius creates my next constraint. After many additional hours of “Imagineering”, playing with different ideas I initially came up with a 0-4-2 design and after a bit more effort finally got to a 2-4-2 design, which in theory should run round a 12ft radius.

The final design issue was that the Ride-on-Railways Saddle Tank body was shorter than the constraint imposed by the Sweet Pea chassis. So to utilise this free space I am intending to place a “coal” bunker behind the cab, which will double up to contain the electronic controller and other electronic gizmos. Hence my intended freelance 2-4-2 Saddle Tank design is shown below.

Design Issues

My initial requirement for the freelance loco was to match up to my existing loco using the same wheel diameter. When I overlaid a drawing of the Sweet Pea chassis based freelance design on top of the drawing for my existing Saddle Tank, the Sweet Pea chassis was around 10mm or 3/8” too tall. So the first cutup job will be to reduce the height of the frames and buffer beams.



The length of the electric motors used in 5" gauge locomotives are all roundabout the same, which normally results in the driving wheels having to be on the inside of the frames. The inside spacing measurement between the frames on the Sweet Pea Chassis is around 100mm or 4", which is around 60mm or 2 3/8" too narrow. This I knew before I purchased the chassis. However, I had not banked on the frame stretchers being mounted on angled steel brackets, in such a way that I could not easily replace the stretchers without damaging the steel brackets. So not only do I need to replace all the frame stretchers but I will also need to replace their angled steel brackets.

One unintended consequence of increasing the frame spacing was the first occurrence of 'Sods Law' on the project, in that no matter how I tried the existing fixing holes in the buffer beams did not align to the new position of the frames. Consequently, the buffer beams will have to be replaced along with potentially the angled steel brackets that secure them on to the frames.

Another, albeit minor issue, is that the existing hornblocks are on the inside of the frames, whereas my design requires them to be on the outside of the frame, otherwise the frame spacing will have to increase even further. This I am glad to say this is simply solved by swapping the frames over.

So the conclusions for the first part of this series, is although I set out with very good intentions the only usable parts of the Sweet Pea chassis are the frames and their associated hornblocks. So if anyone is interested frame stretchers and buffer beams for a Sweet Pea they will be in the next available bring and buy !!

References : www.rideonrailways.com

In the next instalment I hope to be working on the design and subsequent building of the front and rear Pony trucks, the outline of which will then determine the 'adjustments' required to the remaining Sweet Pea frames.

To be continued

Letters to the Editor

As suggested in Graham's very interesting article above, if anyone has an issue they want to discuss and feel that other members would be interested, please send them to me at arlewis01@gmail.com.

Club Matters

Best wishes to Tom

At the time of writing, our Vice Chairman Tom Burgess is not too well with a trapped nerve in his spine which makes walking very painful. He is at home and we send him our very best wishes for a speedy recovery.

Treasurer

We welcome in a New Year and a new Editor. I like to thank John T for all his newsletters over the past years and hope you will support Austin in his new role. Remember the newsletter needs your articles to keep it going.

The end of the financial year is coming up at the end of February and once again subscriptions will be due. Remember that the subscription rate has now increased to £40. Please make sure you have your membership card to hand as, on renewal, you will just be issued with a replacement year sticker to denote payment.

As in previous years, if you have moved address or changed phone or e-mail address, please let me know. If you wish to collect your membership update from the Club House, can you please let me know when sending your payment.

Preparation for the Steam Rally on the 13th-14th April 2013 is now in full swing and I would reiterate the need for volunteers on the day to help with marshalling the event and manning the Public Running. Models and exhibits are also required for the Exhibition Hall. Also, any donations for the Rally Tombola will be gratefully appreciated.

Many thanks.

Jon Evans – Treasurer

Green milk bottle tops

As you may know Mick's wife collects the green plastic screw tops from milk bottles for the Women's Institute. Please continue to pass them to Mick as well as used postage stamps, thanks.

Fawley Hill Steam Rally

Message from Phil Tocknell (p.tocknell@yahoo.co.uk) - I'm helping with the model tent at the Fawley Hill steam rally on May 18/19th and if any member is interested in exhibiting a model, whether it be a complete model or part-built, please contact Fawley Hill. Also the club may be interested in putting on a display of members work and projects. I'm hoping to get to a club meeting shortly once I've got some more info from Fawley Hill. My phone number is 02392 571474 so would-be exhibitors can get in contact with me and can register via the Fawley Hill web site <http://www.fawleyhill.co.uk/>.

Track Maintenance

During February and early March members turned out for the first track maintenance weekends of the season (the maintenance weekend of the 19th and 20th January being snowed off!). Grass was cut, leaves swept away, the garden railway spruced up and edges cut along the traction engine track and the tunnel floor dug down. John H mentioned that some thought needs to be given to a permanent solution to the earth movement in the tunnel e.g. putting slabs on the banking.

It was great to be out in what could almost be said to have been spring air. There's still more to be done and a further maintenance day will be on Sunday the 17th March from 10am.

A few of the culprits are pictured below:



So that's who is taking the signs

Forthcoming events March – June 2013

March		May	
2/3	<i>Maintenance weekend</i>	5	Public running
5	Meeting night	12	Visit by Colchester SME
9/10	Basingstoke Model Railway Show	14	Stationary engines
17	<i>Members' running day & driver training and track maintenance</i>	19	Visitors Open Day (Sunday)
19	Meeting night	28	Meeting night
31	Public running – Easter day		
April		June	
1	Public running – Easter Monday	2	Public running
2	Meeting night	11	Bits and pieces evening
13/14	BDMES Miniature Steam Rally	16	Public running
16	Bits & Pieces evening	22	Members running and barbecue (Sat)
30	Bring & Buy evening	23	Visit to Colchester SME
		25	Meeting night

In the next edition

- The examination and testing of miniature steam boilers (Revised Edition 2012)
- Lyme Regis Branch line – Cannington Viaduct
- Part 2 of Graham's article on Sweet Pea to Sir Galtbe
- and hopefully articles and photos from club members!!!!!!

Quiz Corner

Engineering Word Search

Solve the clues and use those words in the Engineering Word Search below

Use these answers
in the Engineering
Word Search
below

- | | | | |
|---|--|-------|-------|
| 1 | Designer and builder of the London Tunnel at Rotherhithe | (4,6) | _____ |
| 2 | Female clothing used in smoke box | (9) | _____ |
| 3 | Bulleid light pacific class | (4,7) | _____ |
| 4 | Come back, an eccentric | (6,5) | _____ |
| Name the wheelage type (e.g. Atlantic): | | | |
| 5 | 4-6-4 | (6) | _____ |
| 6 | 2-8-2 | (6) | _____ |
| 7 | 2-6-0 | (5) | _____ |
| 8 | Fizzy drink, controller | (3,5) | _____ |
| 9 | Make a fool of yourself, on the cab | (9) | _____ |
| 10 | Holds the handrail | (9) | _____ |
| 11 | Pick up water from, when on the move | (6) | _____ |
| 12 | Father of the steam locomotive | (10) | _____ |
| 13 | Court decides on best loco | (8,6) | _____ |
| 14 | Geordie steam museum | (7) | _____ |
| 15 | Steeplejack and back street mechanic | (4,6) | _____ |
| 16 | Speedy duck | (7) | _____ |
| 17 | Insulate, behind | (3) | _____ |
| 18 | Held attention and plates | (7) | _____ |
| 19 | Stop leaks when boiler testing | (4) | _____ |
| 20 | LBSC's GNR Atlantic | (6) | _____ |
| 21 | LBSCR 0-6-0, dog | (7) | _____ |
| 22 | Cornering axle box | (6) | _____ |
| 23 | Creator of the Planets | (10) | _____ |
| 24 | Between the wheels | (4) | _____ |
| 25 | Use with flux, joining metals | (6) | _____ |
| 26 | Firework on a stick, loco | (6) | _____ |
| 27 | Used for mechanical advantage | (5) | _____ |

Engineering Word Search

The words in the Word Search may be horizontal, vertical, diagonal or backwards

T A M A L L A R D O D E T E V I R A N
A W A D X E G C S P I S E C F P E O S
O L R E A L I H B W D H K L N B I R A
C O C P E Y E F D H O G C N K H S P R
I N B O T D X T K E I U O B C T I O W
T E R W O A S G V L S O R N I G A K R
T A U N H D R L W B N R A O H V M L E
E S N F Y U A Q U F O T T A T N D G N
P L E O K V R K U O S R M R I O F S B
I H L W P J L S I L N I G E V D P L I
L M S O W V E G T M E D K T E B N A D
T A P L U G C D O K H G N M R C V I D
B R I O E M T G B R P F A B T N P R E
J I A D S R U D Y M E O R W L D I T R
S G R G A L C B A L T I C X R O C L F
L D E S J R E D F G S P N R E V E L O
U A D O Y A L G A W J H R O L M A I D
R S L D M B R M H B L I U H P I E H S
T C O I S Y R T N U O C T S E W F N W
E V S L E W F G O D R G E R D O D I G
K H I J M N W S D P E I R A K T H A N
E L C A T C E P S H L T E R R I E R I

The answers to the clues and where they appear in the word search can be obtained from the editor.

Mainline interest



Sunday noon - notice the bend in the third rail conductor in this photo looking towards Basingstoke. All work was completed by early Monday morning the 28th and the conductor was straight!

Relaying the London bound track at Hook on Sunday 27th January 2013





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If you have received a copy of the newsletter by post, it is because we don't have your Email address. Each newsletter costs about £1 to print and post, where as Email is effectively free. Currently, we do not have an Email address for nearly half the membership. If you do have an Email address, which we can use, could you please Email me with your details.

Jon Evans
Treasurer

Who's Who.

<i>Chairman</i>	Vacant
<i>Vice Chairman</i>	Tom Burgess
<i>Secretary</i>	Brian Hogg
<i>Treasurer</i>	Jon Evans

Committee Members.

Graham Blissett	Member
Barry Spender	Member
Dave Andrews	Member
Darren Davis	Member
Steve Newell	Member

Project Leaders.

<i>Catering manager</i>	Eric Widdowson
<i>Electrical Work</i>	Vacant
<i>Library</i>	Ken Jones
<i>Painting/Decorating</i>	David Andrews
<i>Publicity</i>	Eric Widdowson
<i>Publicity assistant</i>	Vacant
<i>Signalling</i>	Graham Blissett
<i>Station Building and contents</i>	Vacant
<i>Track, site and ground maintenance</i>	Dave Blaza & John Neal
<i>Traction Engine Track</i>	Vacant
<i>Webmaster</i>	Stephen Newell
<i>Newsletter</i>	Austin Lewis